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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,512	02/16/2001	Avi Yaron	12808.13US11	5365

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EXAMINER
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AN, SHAWN S

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 05/02/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
**09/785,512**

Applicant(s)  
**Yaron**

Examiner  
**Shawn An**

Art Unit  
**2613**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Feb 10, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20, 21, 51, and 53-70 is/are allowed.
- 6) ☒ Claim(s) 1-19, 22-50, 52, 71, and 72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Response to Amendment***

1. As per Applicant's instructions in Paper 10 as filed on 2/10/03, claims 1, 20-21, 27, 51, and 53 have been amended.

### ***Response to Remarks***

2. Applicant's arguments with respect to claims 1-19, 22-50, 52, and 71-72 have been considered but are moot in view of the new ground of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19, 22-25, and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al (5,653,677) in view of Iddan et al (5,604,531).

**Regarding claim 1**, Okada et al discloses a system for producing a stereoscopic of an object, the system comprising:

a control unit (Fig. 9, 23 or 150);

the system comprising:

a sensor assembly (22 or 149);

a processor (150) connected to the sensor assembly;

a transceiver (26 and 27) connected to the processor;

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a light source (col. 5, lines 1-7); and  
a power supply (Fig. 6, 17) for supplying electrical power, and  
an image processing system (150) connected to the control unit transceiver,  
wherein, the sensor assembly detects stereoscopic image, the processor captures  
the stereoscopic image, the transceiver transmits the stereoscopic image to the  
control unit and the image processing system processes the stereoscopic image (Fig. 9).

Furthermore, it is considered quite obvious for the power supply to supply electrical  
power to the capsule transceiver, the processor, the light source, and to the sensor assembly in  
order to operate all of the electrical devices as specified above.

Okada et al does not particularly disclose a swallowable capsule.

However, an endoscope comprising a swallowable capsule is well known in the art.

Iddan teaches an endoscope comprising a swallowable capsule (Fig. 2).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art  
employing a stereoscopic device as taught by Okada et al et al to incorporate the Iddan's  
swallowable capsule for portability (wireless) and easily accessing an area of interest for  
stereoscopic imaging.

**Regarding claims 2-3**, a memory unit for storing images are well known in the art.  
Therefore, it would have been obvious to utilize a memory unit connected to the  
processor/control unit/image processing system/capsule transceiver for later viewing.

**Regarding claims 4-6**, an optical assembly for focusing an image of an object is  
inherently well known in the art. Therefore, it would have been obvious to utilize an optical  
focusing device for focusing an image of an object on the sensor assembly.

**Regarding claims 7-12**, Okada et al discloses a light dispersing unit (col. 5, lines 1-7).  
Therefore, it would have been obvious to utilize the light dispersing unit which surround the  
sensor assembly completely or partially for effective lighting of an object.

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**Regarding claims 13-16**, Okada et al discloses a collecting department (col. 5, lines 45-60) and a dispensing department (col. 5, lines 61-67). Further, Okada discloses disposing imaging unit to a predetermined position as cited above. Furthermore, door mechanism is well known in the art. Therefore, it would have been obvious to utilize the door mechanism to be connected to the processor for easy dispensing or collecting.

**Regarding claim 17**, the Examiner takes official notice that an user interface connected to the control unit tranceiver and to the image processing system for a purpose of coordinating the observation/operation is well known in the art.

**Regarding claims 18-19**, it is considered an obvious feature for an dispensing/collecting compartments to dispense/collect a medical substance/a bodily substance, respectively.

**Regarding claims 22-25**, it is considered an obvious feature for a door mechanism to comprise a moving elements, such as shape memory element, bi-metallic element, or micro-electromechanical element, for opening or closing each of the door mechanisms.

**Regarding claims 71 and 72**, Okada et al discloses stereoscopic display unit (151).

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al and Iddan et al as applied to claim 1 above, and further in view of Adelson (5,076,687).

**Regarding claim 26**, Okada et al fails to disclose lenticular lens array and a light sensor array. However, Adelson teaches a sensor assembly comprising: lenticular lens layer (18) including a plurality of lenticular elements; and light sensor array (23), and wherein the lenticular element is located in front of the light sensors (Fig. 1), thereby directing light from different directions to different light sensors within the selected group of the light sensors. Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a system for producing a stereoscopic of an object as taught by Okada et al to incorporate the lenticular lens array and the light sensor array as taught by Adelson in order to direct light from

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different directions to different light sensors within the selected group of the light sensors for achieving stereoscopic image.

6. Claims 27-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al and Iddan et al as applied to claim 26 above, and further in view of Watannabe (5,812,187).

**Regarding claims 27-28**, the combination of Okada et al and Adelson does not specifically disclose a light source producing at least two alternating beam of light as being in a different range of wavelengths.

However, Watannabe teaches an endoscope (Fig. 1) including a conventional light source unit producing at least two alternating beam of light (5) as being in a different range of wavelengths.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a stereoscopic device as taught by Okada et al et al to incorporate the Watannabe's light source unit so as to produce at least two alternating beam of light (R, G, B) having a different range of wavelengths for generating a more accurate color video signal, thus improving an image quality.

**Regarding claims 29-30**, it is considered quite obvious to include two group of sensor or a plurality of sensors so that each group of sensor can detect light in a different/predetermined wavelength such as blue or red or green.

**Regarding claims 31-33**, Watannabe discloses a wavelengths consisting of visible red, green blue colors light (7). Furthermore, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light.

**Regarding claims 34-35**, RGB sensor array or CYMG sensor array are well known in the art.

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**Regarding claims 36-38**, Adelson discloses lenticular element including light directing means for distinguishing between at least two directions of light (Fig. 3B), four directions of light (Fig. 3B), and in a general semi-cylindrical shape (18).

**Regarding claim 39**, Adelson teaches light sensors including an odd number of light sensors (23). Therefore, it is considered purely design preference to have an even number of light sensors as specified.

7. Claims 40-50 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al and Iddan et al as applied to claim 1 above, and further in view of Street (6,075,555).

**Regarding claims 40, 42, and 52**, Okada et al fails to disclose at least two apertures including a light valve, and a light sensor array.

However, Street discloses a stereoscopic device comprising:

at least two apertures (Fig. 3, 41) including a light valve being operative to open at a different predetermined timing (col. 6, lines 34-50);

a light sensor array (32);

an illuminating unit (Fig. 1, 1);

wherein the light sensor array detects a plurality of images corresponding to an open state of a selected one of the light valves (col. 6, lines 26-64).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a system for producing a stereoscopic of an object as taught by Okada et al to incorporate the Street's two apertures including a light valve and a light sensor for generating a stereoscopic video signal, thus improving an image quality.

**Regarding claims 41 and 50**, a light source producing at least two alternating beams of light is well known in the art (see **Watannabe**). Therefore, it's quite obvious, wherein images must correspond to a predetermined combination of open state of a selected one of the light valves and a selected one of the at least two alternating beams.

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**Regarding claims 43-44**, it is considered quite obvious to include two group of sensor or a plurality of sensors so that each group of sensor can detect light in a different/predetermined wavelength such as blue or red or green.

**Regarding claim 45-47**, a wavelengths consisting of visible red, green blue colors light (7) is well known in the art. Furthermore, it is considered quite obvious to add more conventional colors such as cyan, yellow, magenta, infra-red, ultra-violet, and visible light. (see **Watannabe**).

**Regarding claims 48-49**, RGB sensor array or CYMG sensor array are well known in the art.

#### *Allowable Subject Matter*

8. Claims 20-21, 51, and 53-70 are allowed as having incorporated the allowable subject matter into corresponding independent claims.

#### *Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.




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10. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A) Asahi optical co LTD [ASAO] (JP 2001170002A), Capsule endoscope.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn An whose telephone number (703) 305-0099 and schedule are Tuesday-Friday.

  
CHRIS KELLEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600



SSA

April 10, 2003